CLAIMS:

- 1. A method for diagnosing breast cancer in a subject comprising determining levels of expression of p14 peptide in one or more samples from said subject, a high level of expression signifying a high probability for breast cancer 5 in said subject.
 - 2. The method of Claim 1, comprising assaying for the level of p14 peptide in a sample obtained from the subject, said method comprises:
 - (a) contacting said sample with anti-p14 antibodies;
 - (b) determining binding of anti-p14 antibodies to p14 peptide.
- 10 3. The method of Claim 2, wherein said sample is a tissue or body fluid sample excised or withdrawn from a suspicious area in the breast of the subject.
 - 4. The method of Claim 3, wherein said sample is selected from fresh biopsy section, cryo-section or paraffin embedded section.
 - 5. The method of Claim 1 or 2, wherein said sample is a blood sample.
- 15 6. The method of Claim 1, comprising assaying for the level of anti-p14 antibodies in a sample obtained from the subject, said method comprises:
 - (a) contacting said sample with p14 peptide;
 - (b) determining binding of p14 peptide to anti-p14 antibodies.
 - 7. The method of Claim 6, wherein said sample is a blood sample.
- 20 8. The method of Claim 7, wherein said p14 peptide is recombinant peptide.
 - 9. The method of Claim 8, wherein said p14 peptide is His-tag p14 peptide comprising the sequence depicted in SEQ ID NO:2.
- 10. A method for screening samples into such which signify that subjects from which they were obtained have a relatively high possibility of having or being susceptible of developing breast cancer and such which signify that subjects from which they were obtained have a relatively lower probability of having or being susceptible of developing breast cancer, the method comprising contacting the samples with anti-p14 antibodies and determining binding of anti-p14 antibodies and p14 peptide in said sample, a high degree of binding

25

signifying a corresponding higher probability of having or being susceptible of developing breast cancer.

- The method of Claim 10, wherein said sample is a tissue or fluid sample 11. excised or withdrawn from a suspicious area in the breast of the subject.
- The method of Claim 11, wherein said sample is selected from fresh 5 **12.** biopsy section, cryo-section or paraffin embedded section.
 - The method of Claim 10, wherein said sample is a blood sample. **13.**
- A method for screening samples into such which signify that subjects 14. from which they were obtained have a relatively high possibility of having or 10 being susceptible of developing breast cancer and such which signify that subjects from which they were obtained have a relatively lower probability of having or being susceptible of developing breast cancer, the method comprising contacting the samples with p14 peptide and determining binding of p14 peptide with anti-p14 antibodies, a high degree of binding signifying a corresponding 15 higher probability of having or being susceptible of developing breast cancer.
- - The method of Claim 14, wherein said sample is a blood sample. **15.**
 - The method of Claim 14 or 15, wherein said p14 peptide is recombinant **16.** p14 peptide.
- The method of Claim 16, wherein said p14 peptide is His-tag p14 peptide 17. 20 comprising the sequence depicted in SEQ ID NO:2.
 - A kit for diagnosing breast cancer in a subject comprising anti-p14 18. antibodies and instructions for use of said anti-p14 antibodies in determining levels of expression of p14 peptide in one or more samples from said subject, a high level of expression signifying a high probability for breast cancer in said subject.
 - A kit for diagnosing breast cancer in a subject comprising p14 peptide and 19. instructions for use of said p14 peptide in determining levels of anti-p14 antibodies in one or more samples from said subject, a high level of anti-p14 antibodies signifying a high probability for breast cancer in said subject.
- The kit of Claim 19, wherein said p14 peptide is recombinant p14 peptide. 20. 30

- 21. The kit of Claim 20, wherein said recombinant p14 peptide is His-tag p14 peptide comprising the sequence as depicted in SEQ ID NO:2.
- 22. A method for the treatment of breast cancer comprising administering to a subject in need of anti-breast cancer treatment an amount of anti-p14 antibodies,
- 5 the amount being sufficient to achieve an anti cancer effect in said subject.
 - 23. The method of Claim 22, wherein said anti-p14 antibodies are humanized antibodies.
 - 24. The method of Claim 22, wherein said anti-p14 antibodies are bound to a protein transducing element.
- 10 25. The method of Claim 24, wherein said protein transducing element is the (37-72) Tat fragment of HIV-HV1B1 Tat.
 - 26. The method of Claim 22, wherein said anti-p14 antibodies are bound to a cytotoxic agent
- 27. A method for the treatment of breast cancer comprising administering to a subject in need an amount of p14 peptide, the amount being effective to elicit production of anti-p14 antibodies in said subject.
 - 28. A pharmaceutical composition for the treatment of breast cancer comprising as active ingredient an amount of anti-p14 antibodies, the amount being sufficient to achieve a therapeutic effect in said subject.
- 20 **29.** The pharmaceutical composition of Claim 28, wherein said anti-p14 antibodies are humanized antibodies.
 - 30. The pharmaceutical composition of Claim 29, wherein said anti-p14 antibodies are bound to a protein transducing element.
- 31. The pharmaceutical composition of Claim 30, wherein said protein 25 transducing element is the (37-72) Tat fragment of HIV-HV1B1 Tat.
 - 32. The pharmaceutical composition of Claim 28, wherein said anti-p14 antibodies are bound to a cytotoxic agent.
 - 33. A vaccine comprising as active ingredient an amount of p14 peptide or an immunogenic fragment thereof, the amount being sufficient to elicit in a subject
- 30 production of anti-p14 antibodies.

WO 2005/073728 PCT/IL2005/000105

30

- 34. Use of amount of anti-p14 antibodies for the preparation of a pharmaceutical composition for the treatment of breast cancer in a subject, the amount of said anti-p14 antibodies sufficient to achieve an anti cancer effect in said subject.
- 5 35. Use of Claim 34, wherein said anti-p14 antibodies are humanized antibodies.
 - 36. Use of Claim 34, wherein said anti-p14 antibodies are bound to a protein transducing element.
- 37. Use of Claim 36, wherein said protein transducing element is the (37-72)

 10 Tat fragment of HIV-HV1B1 Tat.
 - 38. Use of Claim 34, wherein said anti-p14 antibodies are bound to a cytotoxic agent.
- 39. Use of an immunogenic amount of p14 peptide for the preparation of a vaccine, the amount of p14 peptide being effective to elicit an immune response in a subject.